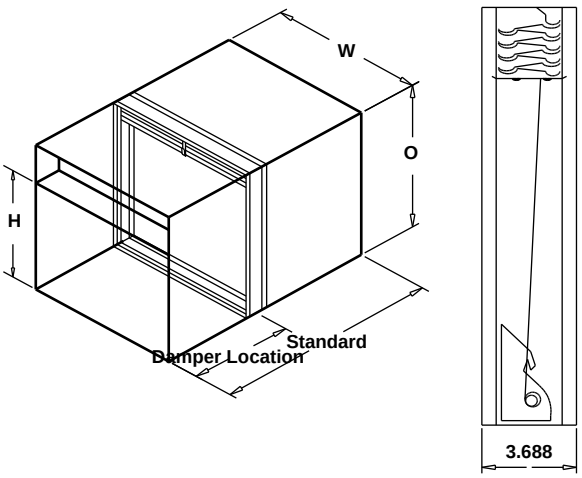


DFD-150

Dynamic Rated Fire Damper

Application & Design

The model DFD-150 is approved for use in walls, floors, and partitions with fire resistance ratings less than 3 hours. This model carries a 1 1/2 hour UL fire damper label. UL-555 classifies dynamic rated fire dampers for use in HVAC systems that are operational in the event of fire.

UL555 FIRE RESISTANCE RATINGS
Fire Rating: 1 1/2 hours
Maximum Velocity: 4,000 ft/min up to 24.000 in. x 24.000 in. vertical only
2,000 ft/min vertical or horizontal, all sizes
Maximum Pressure: 4 in. wg

Note: When ordering C, CO or CR transitions, they are positioned 1.000 in. from bottom of sleeve.

Notes: All dimensions shown are in units of inches.
W & H furnished approximately 0.25 in. undersized. (sleeve thickness is NOT included)

Codes Approved

This model meets the requirements for fire dampers established by:
National Fire Protection Association :NFPA Standards 80, 90A, and 101
Underwriters Laboratories
UL Classified to U.S. and Canadian Safety Standards UL standard 555 (Listing#R13317)
IBC (International Building Codes)
CSFM California State Fire Marshall: Fire Damper Listing (#3225-0981-102)
New York City (MEA Listing #260-91-M)
FM Approvals Specification Tested Product
Installation Instructions available at www.greenheck.com.

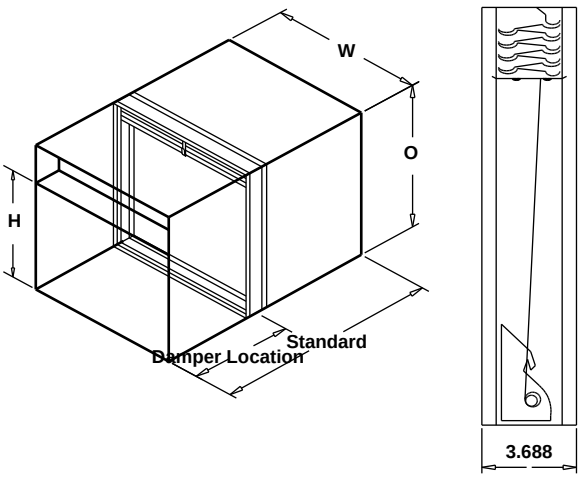
CONSTRUCTION FEATURES

Transition: B
Transition Location: Both Sides
Mounting: Vertical
Closure Device: Fusible Link
Closure Temp. (F): 212
Sleeve Thickness (ga): Standard
Sizing: Nominal
Velocity (ft/min): 2,000

Selected Accessories

Retaining Angles: Mounting - 2-Side Loose, Size - Min. size per UL

ID #	Tag	Qty	W (in.)	H (in.)	Sections Wide	Sections High	Sleeve Length (in.)	Damper Location (K) (in.)	Slv Thknes (ga)	O Dimension (in.)
22-1	F 105	1	30.000	12.000	2	1	12	6	20	14
Tags:										
22-2	F 106	1	30.000	12.000	2	1	12	6	20	14
Tags:										
22-3	F 107	1	6.000	6.000	1	1	12	6	20	8
Tags:										
22-4	F 204	1	6.000	6.000	1	1	12	6	20	8
Tags:										
22-5	F 304	1	12.000	12.000	1	1	12	6	20	14
Tags:										
22-6	F 305	1	6.000	6.000	1	1	12	6	20	8
Tags:										
22-7	F 407	1	16.000	6.000	1	1	12	6	20	8
Tags:										
22-8	F 409	1	24.000	10.000	1	1	12	6	20	12
Tags:										



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Notes: All dimensions shown are in units of inches.
W & H furnished approximately 0.25 in. undersized. (sleeve thickness is NOT included)

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National Fire Protection Association :NFPA Standards 80, 90A, and 101
Underwriters Laboratories
UL Classified to U.S. and Canadian Safety Standards UL standard 555 (Listing#R13317)
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Transition Location: Both Sides
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Closure Device: Fusible Link
Closure Temp. (F): 212
Sleeve Thickness (ga): Standard
Sizing: Nominal
Velocity (ft/min): 2,000

Selected Accessories

Retaining Angles: Mounting - 2-Side Loose, Size - Min. size per UL

ID #	Tag	Qty	W (in.)	H (in.)	Sections Wide	Sections High	Sleeve Length (in.)	Damper Location (K) (in.)	Slv Thknes (ga)	O Dimension (in.)
22-9	F 410	1	6.000	6.000	1	1	12	6	20	8
Tags:										

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 16, 2016

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Nolte

Project No. WT 14127.01

☐ UPS ☐ Courier ☒ **Email**

Copies	No.	Description
1 PDF	238800M07A	(Submittal No.'s:) (~~R&B CxSRC~~)
		(Cannon #238800-10 REV002) - (Paric #15051-0371) – (WES #607)
		➢ **Duct Work Accessories - Resubmittal**

Remarks:

c: **Kelvin Patel**
Kpatel@cannondesign.com

☒ **Furnish as Submitted** ☐ Furnish as Noted

☐ Rejected ☐ Revise & Resubmit

☐ Reviewed ☐

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

14127.01 - 238800 M07A
RESUBMITTAL -
MTN TO REVIEW
12/07/16

WTASHOP - Webster ISB - 23 8800-010 REV002

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, "WTASHOP (WTASHOP@wmtao.com)" <WTA...
Date: 12/7/2016 2:07 PM
Subject: Webster ISB - 23 8800-010 REV002
Cc: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Attachments: 233880-010 Duct Work Accessories Product Data REV 1.pdf

Attached for review.

Melissa Pirtle

CANNONDESIGN

1100 Clark Ave
St. Louis, Missouri 63102
T 314.425.8797
cannondesign.com

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME

ADDRESS

NUMBER

OWNER

ARCHITECT / ENGINEER

SUBMITTED BY

CONTRACTOR / CM SUBMITTAL NO. | CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE | SPECIFICATION SECTION / PARAGRAPH

MANUFACTURER / SUPPLIER | ITEM / PRODUCT ID

REQUIRED DATE | PRIORITY | ◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ◯ Shop Drawings
- ◯ Samples (_____ copies)
- ◯ LEED Submittal
- ◯ Certification / Qualifications
- ◯ Record Documents
- ◯ Product Data
- ◯ Coordination Drawing
- ◯ Calculations
- ◯ Schedules
- ◯ O&M Manuals
- ◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◯ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

REVIEWED BY | DATE

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER

RECEIVED DATE

- ◯ A. No Exceptions Taken
  No further review of submittal is required.
- ◯ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ◯ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ◯ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ◯ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ◯ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ◯ See attached sheet(s) for additional comments

REVIEWED BY | DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0371

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 12/06/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Duct Work Accessories Product Data REV1

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		238800-010	2		12/06/2016	Duct Work Accessories Product Data REV1	Submitted

NOTES:

CC:

Signed: _____

Devin Gates

icon Mechanical

LETTER OF TRANSMITTAL

TO: Paric Corporation
77 West Port Plaza #250
St. Louis, MO 63146

ATTN: Jason Szachnieski, Devin Gates

DATE: 11/30/16
JOB # : 5768
RE: Webster ISB

We are sending you
[ ] Attached [ ] Under separate cover
[X] Shop drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications
[ ] Copy of letter [ ] Change order [ ] Other

COPIES	DATE	NO.	DESCRIPTION
1	11/30/16	238800	Fire & Combination Fire Smoke Damper Resubmit

These are transmitted as checked below:

[ ] For signature [ ] Approved as submitted [ ] Resubmit [ ] copies for approval
[ ] For your use [ ] Approved as noted [X] Submit [ ] copies for distribution
[ ] As requested [ ] Returned for corrections [ ] Return [ ] corrected prints
[ ] For bids due [ ] Prints returned after loan to us
[X] For review and comment [ ] Other

Remarks: Please return by 12/6/16

Resubmittal based on ASI-32

COPY TO: file

SIGNED: Alex Chambers

Webster University ISB
Webster Groves, MO

Submittal #:	238800
Submittal Description:	Fire & Combination Fire Smoke Dampers
Return By:	12/6/16

Please Note: To avoid scheduling delays and equipment release delays, please submit by the "Return By" date.

CHECKED BY:		DESIGNER:	ENGINEER:
X	NO EXCEPTION TAKEN		MAKE CORRECTIONS NOTED
	SUBMIT SPECIFIED ITEM		REVISE AND RESUBMIT
	REJECTED		

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Equipment supplier is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and satisfactory performance of his work.

icon Mechanical	Job #:	5768
	Date:	11/30/16
	By:	ARC

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: October 20, 2016

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mark Schaefer

Project No. WT 14127.01

[ ] UPS [ ] Courier [X] **Email**

Copies	No.	Description
1 PDF	238800M07	(Submittal No.'s) ~~(R&B CxSRC~~)
		(Cannon #238800-010) - (Paric #15051-0284) – ~~(WES #607)~~
		➢ **Duct Work Accessories**

Submittal Review Comments

1. **Product material is acceptable, however we would like to confirm and clarify the type, sizes, and quantities required.**
2. **For clarifications see attached fire and smoke damper schedule. This information will be issued in ASI-032/ESI-008.**
3. **Confirm sizes with sheet metal fabrication drawings.**

c: **Kelvin Patel**
Kpatel@cannondesign.com

[ ] Furnish as Submitted [ ] Furnish as Noted

[ ] Rejected [X] ***Revise & Resubmit**

[ ] Reviewed [ ]

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

14127.01 - 238800 M07
MWS TO REVIEW
10/14/16

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, "WTASHOP (WTASHOP@wmtao.com)" <WTA...
CC: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Date: 10/14/2016 10:52 AM
Subject: Webster ISB - 23 8800-010
Attachments: 238800-010 Duct Work Accessories Product Data.pdf

Attached for review.

Melissa Pirtle

[cid:image001.png@01D22608.FE712EF0]
1100 Clark Ave
St. Louis, Missouri 63102
T 314.425.8797
cannondesign.com

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME

ADDRESS

NUMBER

OWNER

ARCHITECT / ENGINEER

SUBMITTED BY

CONTRACTOR / CM SUBMITTAL NO. | CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE | SPECIFICATION SECTION / PARAGRAPH

MANUFACTURER / SUPPLIER | ITEM / PRODUCT ID

REQUIRED DATE | PRIORITY | ◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ◯ Shop Drawings
- ◯ Samples (_____ copies)
- ◯ LEED Submittal
- ◯ Certification / Qualifications
- ◯ Record Documents
- ◯ Product Data
- ◯ Coordination Drawing
- ◯ Calculations
- ◯ Schedules
- ◯ O&M Manuals
- ◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◯ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

REVIEWED BY | DATE

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER

RECEIVED DATE

- ◯ A. No Exceptions Taken
  No further review of submittal is required.
- ◯ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ◯ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ◯ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
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A/E COMMENTS ◯ See attached sheet(s) for additional comments

REVIEWED BY | DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0284

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 10/13/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Duct Work Accessories Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		238800-010	1			Duct Work Accessories Product Data	Submitted

NOTES:

CC:

Signed: _____

Devin Gates

SUBMITTAL

Job Title: **ICON - Webster Univ - ISB**

Job Site: Webster University
547 Garden Ave
Saint Louis , MO 63119
United States

Contractor: ICON MECHANICAL

Elevation: (ft) 709

Date: 11/30/16

Submitted By: Mark Haas

H C SHARP COMPANY INC
8301D CREST INDUSTRIAL DR
SAINT LOUIS , MO 63123-2509
US
Phone: (314)351-6900
Fax: (314)351-6901
Email Address: Bob@HCSharpco.com